METHODS AND SYSTEMS FOR ANALYZING
ENGINE UNBALANCE CONDITIONS

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ABSTRACT OF THE DISCLOSURE

Methods and systems for analyzing engine unbalance conditions are disclosed. In one embodiment, a method includes receiving vibrational data from a plurality of locations distributed over an engine and a surrounding engine support structure, and inputting the

10 vibrational data into a neural network inverse model. The neural network inverse model establishes a relationship between the vibrational data and an unbalance condition of the engine, and outputs diagnostic information indicating the unbalance condition of the engine. In a further embodiment, a method further includes subjecting the vibrational data to a Fast Fourier Transformation to extract a desired once per revolution vibrational data prior to input

15 to the neural network inverse model.

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PATENT TRADEMARK OFFICE